

WHAT IS CLAIMED IS:

1. A method of color matching a metallic paint to match a target metallic color within a specified color tolerance, which process comprises:

5 providing a computer data base with

- (i) a library comprising the spectral characteristics of at least one black colorant, at least one non-black colorant, and at least one metallic pigment;
- (ii) a paint manufacturing formula;
- (iii) the number of colorants to use from the selected library; and
- (iv) the allowable degree of color variation;

10 analyzing a sample of the target metallic color to identify the type of metallic pigment present in the target metallic color;

15 selecting a metallic pigment from the library which is closest to the type of metallic pigment present in the target metallic color;

selecting a metallic pigment from the library which is closest to the type of metallic pigment present in the target metallic color;

20 determining the quantities of colorants and metallic pigments to be incorporated into the paint manufacturing formula intended to provide a spectral curve which matches the spectral curve of target color within the allowable variation of color;

25 producing a metallic paint incorporating the determined quantities of colorants and metallic pigments according to the paint manufacturing formula;

comparing the spectral curve of the produced paint with that of the target color to determine if it is within the allowed variation;

if the comparison of the spectral curve of the produced paint indicates it is not within the allowed color variation, repeating the shading steps until it is.

2. The process of claim 1, wherein the colorants are non-white.

3. The process of claim 1, wherein the metallic pigment present in the target metallic color is identified by microscopic analysis of the target metallic color.

4. The process of claim 1, wherein the spectrophotometer or colorimeter
5 obtains the spectral curve of the target metallic paint from a single angle.